What is claimed is:

1. A hybrid fiber-coax network comprising:

a head end;

at least one fiber node in two-way communication with the head end; and

a cable modem located within the fiber node, wherein the cable modem provides a communication channel adapted to transmit at least one informational signal that is indicative of a condition of the fiber node to the head end and that is adapted to receive at least one control signal from the head end.

2. The network of claim 1, wherein the cable-modem is a data-over-cable service-interface-specification cable-modem.

3. The network of claim 1, and further including a monitor-and-control circuit that is coupled to the cable-modem.

4. The network of claim 3, and further including at least one controllable device located within the fiber node that is coupled to the monitor-and-control circuit.

5. The network of claim 1, and further including a cable modem transmission system that communicates with the cable modem.

6. The network of claim 1, and further including a monitor-and-control subsystem in the head end that communicates with the cable-modem through a cable modem transmission system.

7. A hybrid fiber-coax network comprising:

at least one fiber node including at least one controllable device;

a monitor-and-control circuit located within the fiber node that is adapted to receive at least one informational signal from the controllable device indicative of a condition of the controllable device, that is adapted to transmit the informational signal, that is adapted to receive at least one control signal, and that is adapted to transmit the control signal to the controllable device to alter the

condition of the controllable device;

a cable modem located within the fiber node, wherein the cable modem provides a communication channel that is adapted to receive the informational signal from the monitor-and-control circuit, that is adapted to transmit the informational signal, that is adapted to receive the control signal, and that is adapted to transmit the control signal to the monitor-and-control circuit;

a head end;

a cable modem transmission system at the head end that is adapted to receive the informational signal from the cable modem, that is adapted to transmit the informational signal, that is adapted receive the control signal, and that is adapted transmit the control signal to the cable modem; and

a monitor-and-control subsystem at the head end that is adapted to receive the informational signal transmitted by the cable modem transmission system, that is adapted to evaluate the informational signal, and that is adapted to transmit the control signal, based on the evaluation, to the cable modem transmission system.

8. The network of claim 7, wherein the monitor-and-control circuit includes at least one port coupled to the controllable device that is adapted to receive the informational signal and to transmit the control signal and wherein the monitor-and-control circuit includes a port coupled to the cable-modem communication channel that is adapted to transmit the informational signal and to receive the control signal.

9. The network of claim 7, wherein the cable-modem includes a first port coupled to the cable-modem communication channel and coupled to the monitor-and-control circuit that is adapted to receive the informational signal and to transmit the control signal, wherein the cable-modem includes a second port coupled to the cable-modem communication channel and coupled to the cable modem transmission system that is adapted to transmit the informational signal, and wherein the cable-modem includes a third port coupled to the cable-modem communication channel and coupled

to the cable modem transmission system that is adapted to receive the control signal.

10. The network of claim 7, wherein the cable modem transmission system includes a first port coupled to the cable-modem communication channel that is adapted to receive the informational signal, wherein the cable modem transmission system includes a second port coupled to the cable-modem communication channel that is adapted to transmit the control signal, and wherein the cable modem transmission system includes a third port coupled to the monitor-and-control subsystem that is adapted to transmit the informational signal and to receive the control signal.

11. The network of claim 7, wherein the monitor-and-control subsystem includes a port coupled to the cable modem transmission system that is adapted to receive the informational signal and to transmit the control signal.

12. The network of claim 7, wherein the controllable device includes at least any one of an amplifier, an optical-to-electrical converter, an electrical-to-optical converter, a temperature sensor, or an output line of the fiber node.

13. A hybrid fiber-coax network comprising:

at least one fiber node including at least one controllable device;

a monitor-and-control circuit located within the fiber node, the monitor-and-control circuit having at least one first input-output and a second input-output, wherein the first input-output of the monitor-and-control circuit receives an informational signal from the controllable device that is indicative of a condition of the controllable device;

a cable modem located within the fiber node, the cable modem having an input, output, and input-output, wherein the cable-modem input-output receives the informational signal from the second input-output of the monitor-and-control circuit;

a head end;

a cable modem transmission system at the head end that has an input that

receives the informational signal from the output of the cable modem, the cable modem transmission system having an output and an input-output; and

a monitor-and-control subsystem at the head end that has an input-output, the monitor-and-control subsystem input-output receiving the informational signal from the input-output of the cable modem transmission system, wherein the monitor-and-control subsystem evaluates the informational signal, whereby evaluating the condition of the controllable device, and transmits at least one control signal based on the evaluation through its input-output to the input-output of the cable modem transmission system, wherein the control signal is transmitted from the output of the cable modem transmission system to the input of the cable modem, wherein the control signal is transmitted to the second input-output of the fiber-node monitor-and-control circuit, wherein the first input-output of the monitor-and-control circuit transmits the control signal to the controllable device to alter its operation based on the evaluation of the monitor-and-control subsystem.

14. A fiber node comprising:

at least one input line and at least one output line;

at least one controllable device;

a monitor-and-control circuit that is adapted to receive at least one informational signal from the controllable device indicative of a condition of the controllable device, that is adapted to transmit the informational signal, that is adapted to receive at least one control signal, and that is adapted to transmit the control signal to the controllable device to alter the condition of the controllable device; and

a cable modem, wherein the cable modem provides a communication channel that is adapted to receive the informational signal from the monitor-and-control circuit, that is adapted to transmit the informational signal to the output line, that is adapted to receive the control signal from the input line, and that is

adapted to transmit the control signal to the monitor-and-control circuit.

15. The fiber node of claim 14, wherein the monitor-and-control circuit includes at least one port coupled to the controllable device that is adapted to receive the informational signal and to transmit the control signal and wherein the monitor-and-control circuit includes a port coupled to the cable-modem communication channel that is adapted to transmit the informational signal and to receive the control signal.

16. The fiber node of claim 14, wherein the cable-modem includes a first port coupled to the cable-modem communication channel and coupled to the monitor-and-control circuit that is adapted to receive the informational signal and to transmit the control signal, wherein the cable-modem includes a second port coupled to the cable-modem communication channel and coupled to the output line that is adapted to transmit the informational signal to the output line, and wherein the cable-modem includes a third port coupled to the cable-modem communication channel and coupled to the input line that is adapted to receive the control signal from the input line.

17. The fiber node of claim 14, wherein the controllable device includes at least any one of an amplifier, an optical-to-electrical converter, an electrical-to-optical converter, a temperature sensor, or an output line of the fiber node.

18. A fiber node comprising:

at least one input line and at least one output line;

at least one controllable device;

a monitor-and-control circuit, wherein the monitor-and-control circuit includes at least one first port coupled to the controllable device that is adapted to receive at least one informational signal from the controllable device indicative of a condition of the controllable device and to transmit at least one control signal to the controllable device to alter the operation of the controllable device and wherein the monitor-and-control circuit includes a second port that is adapted to transmit the informational signal and to receive the control signal;

and

a cable modem, wherein the cable modem provides a communication channel, wherein the cable-modem includes a first port coupled to the communication channel and coupled to the second port of the monitor-and-control circuit that is adapted to receive the informational signal from the monitor-and-control circuit and to transmit the control signal to the monitor-and-control circuit, wherein the cable-modem includes a second port coupled to the communication channel and coupled to the output line that is adapted to transmit the informational signal to the output line, and wherein the cable-modem includes a third port coupled to the communication channel and coupled to the input line that is adapted to receive the control signal from the input line.

19. A method for monitoring and controlling at least one fiber node of a hybrid fiber-coax network where the fiber node is communicatively coupled to a head end of the hybrid fiber-coax network, the method comprising:

receiving at least one informational signal that is indicative of a condition of the fiber node at a cable modem located in the fiber node;

transmitting the informational signal from the cable modem to the head end;

evaluating the informational signal at the head-end;

transmitting at least one control signal based on the evaluation from the head end to the cable modem; and

using the control signal to alter the operation of the fiber node.

20. A method for monitoring and controlling at least one fiber node of a hybrid fiber-coax network where the fiber node is communicatively coupled to a head end of the hybrid fiber-coax network, the method comprising:

transmitting an informational signal from at least one controllable device in the fiber node that is indicative of a condition of the controllable device to a monitor-and-control circuit located in the fiber node;

transmitting the informational signal from the monitor-and-control circuit to a cable modem located in the fiber node;

transmitting the informational signal from the cable modem to a cable modem transmission system at the head end;

transmitting the informational signal from the cable modem transmission system to a monitor-and-control subsystem at the head end;

evaluating the informational signal using the monitor-and-control subsystem;

transmitting at least one control signal based on the evaluation from the monitor-and-control subsystem to the cable modem transmission system;

transmitting the control signal from the cable modem transmission system to the cable modem;

transmitting the control signal from the cable modem to the monitor-and-control circuit; and

transmitting the control signal to the controllable device to control its operation.

21. A method for identifying a problematic line out of at least two lines of a fiber node of a hybrid fiber-coax network where the fiber node is communicatively coupled to a head end of the hybrid fiber-coax network, the method comprising:

receiving a signal at the head end that is indicative of a problematic condition in one of the lines of the fiber node;

transmitting control signals from the head end to a cable modem located in the fiber node, in response to receiving the signal, that sequentially disable and enable the respective lines one at a time; and

monitoring further signals at the head end to determine the effect of disabling the respective lines on the occurrence of the problematic condition.

22. The method of claim 21, wherein receiving the signal at the head end and transmitting the control signals from the head end is accomplished using a cable modem

transmission system.

23. The method of claim 22, further comprising transmitting the signal from the cable modem transmission system to a monitor-and-control subsystem and using the monitor-and-control subsystem to determine that the signal is indicative of a problematic condition in one of the lines of the fiber node.

24. The method of claim 23, wherein transmitting the control signals further comprises transmitting the control signals from the monitor-and-control subsystem to the cable modem transmission system.

25. The method of claim 21, wherein monitoring is accomplished by receiving a signal indicative of the condition of one of the lines at the monitor-and-control subsystem and using the monitor-and-control subsystem to evaluate the signal.

26. The method of claim 21 further comprising identifying the problematic line to be the line that reduces the problematic condition when disabled.

27. The method of claim 21 further comprising transmitting at least one control signal from the head end to the cable modem that reduces the problematic condition.

28. A method for identifying a problematic line out of at least two lines of a fiber node of a hybrid fiber-coax network where the fiber node is communicatively coupled to a head end of the hybrid fiber-coax network, the method comprising:

receiving a signal that is indicative of a problematic condition in one of the lines of the fiber node at a monitor-and-control subsystem located at the head end;

transmitting control signals from the monitor-and-control subsystem to a cable modem transmission system;

transmitting the control signals from the cable modem transmission system to a cable modem in the fiber node;

transmitting the control signals from the cable modem to a monitor-and-control

circuit in the fiber node;

using the control signals to sequentially disable and enable the respective lines one at a time; and

monitoring further signals to determine the effect of disabling the respective lines on the occurrence of the problematic condition using the monitor-and-control subsystem.

29. The method of claim 28, wherein receiving a signal further comprises using the monitor-and-control subsystem to determine that the signal is indicative of a problematic condition in one of the lines of the fiber node.

30. The method of claim 28 further comprising identifying the problematic line to be the line that reduces the problematic condition when disabled.

31. The method of claim 28 further comprising transmitting at least one control signal from the head end to the cable modem that reduces the problematic condition.